



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/827,760

04/06/2001

Harold L. Simonsen

528-009766-US(PAR)

6115

7590

09/16/2005

Geza C. Ziegler
Perman & Green, LLP
425 Post Road
Fairfield, CT 06430

EXAMINER

RYMAN, DANIEL J

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

K

Office Action Summary	Application No. 09/827,760	Applicant(s) SIMONSEN ET AL.	
	Examiner Daniel J. Ryman	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,8,9,11-17 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8,9,11-17 and 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 9/6/2005 have been fully considered but they are not persuasive. On page 8 of the Response, Applicant asserts that the amendments to claim 4 overcome the rejection under 35 U.S.C. § 112. Examiner, respectfully, disagrees. Although the specification discloses that the broadcast link is generally a continuous transmission, the specification never specifies that the transmission of link maintenance information is continuous. Rather, the specification discloses that the link maintenance information is only transmitted in a single channel. Therefore, it is presumed that the transmission of link maintenance information is sometimes stopped to permit the transmission of other information, such as user data information, in other channels. In order to overcome the rejection, Applicant should eliminate the requirement that the transmission of link maintenance information be a *continuous* transmission.
2. Applicant further asserts that Marshall does not disclose the construction of a broadcast link for controlling the use of communication channels. Examiner, respectfully, disagrees. Marshall discloses using a system controller to control the channel allocation of the mobile units (col. 1, lines 24-28 and col. 3, lines 58-68). Marshall further discloses the use of a control channel (col. 3, lines 4-17) on the forward, i.e. downlink, carrier (broadcast link) (col. 2, lines 45-57). Thus it is implicit, or at the very least obvious, that the base station uses the control channel on the downlink carrier to indicate to each mobile unit its respective channel allocation. As such, Examiner maintains that Marshall discloses the construction of a broadcast link (forward carrier) for controlling the use of communication channels (channel allocation).

Art Unit: 2665

3. For the foregoing reasons, Examiner maintains that the claims are obvious in view of the cited prior art.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

6. Claim 4 contains the limitation “wherein the broadcast link is a continuous transmission of link maintenance information from the central node to each of the at least one remote nodes.” However, the specification discloses that “[t]he broadcast link 40 is generally a continuous transmission from the central node 20 to each of the remote nodes 30 and can be used to transmit data and information from the central node 20 to each remote node 30” where “[t]he broadcast link 40 includes a channel that is adapted to transfer unique link maintenance information from the central node 20 to the remote nodes 30” (specification: pg. 5, line 20-page 6, line 2). If the broadcast link includes even a single data channel, then the broadcast node cannot *continuously* transmit link maintenance information to each of the at least one remote nodes because the broadcast link also transmits data in addition to the link maintenance information.

Art Unit: 2665

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 5, 8, 9, 11-17, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson et al. (USPN 5,369,637) in view of Marshall (USPN 5,502,744).

9. Regarding claims 1 and 12, Richardson discloses a communications system comprising: a central node (ref. BS: base station) adapted to transmit information over a broadcast link (downstream) to at least one remote node (ref. 16: mobile transceiver unit) (col. 2, lines 45-68); at least one remote node adapted to receive information transmitted from the central node over the broadcast link (col. 2, lines 45-68) where it is implicit that the downstream link is broadcast to all nodes in the system; and a communications link (upstream) comprising a time division multiple access link using bi-BPSK modulation (col. 2, line 3), with one first channel (ref. M, 22, and 26: control channel) to provide all link maintenance and management functions for the broadcast link and time division multiple access link (col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12) where it is implicit that a control channel is used to provide link maintenance and management functions, and another second channel (traffic channel) providing bandwidth-on-demand for transferring only user data and to meet bandwidth needs on demand of individual remote nodes (col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68), the communications link adapted to convey information from the remote node to the central node (col. 2, lines 45-68) where this is implicit in a communication system, the central node being adapted to dynamically

Art Unit: 2665

tailor a remote node transmit power control and a bandwidth as requested by the remote node for conveying information over the communications link (col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

Richardson does not expressly disclose that the one first channel operates at a lower data rate to achieve a high signal-to-noise ratio. Marshall teaches, in a wireless communication system, transmitting an important signal at a lower data rate to achieve a high signal-to-noise ratio in order to ensure that the important signal is properly received (col. 1, lines 48-61 and col. 5, lines 9-17) where control information is important since it is necessary for proper operation of the channel. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to transmit the one first channel at a lower data rate to achieve a high signal-to-noise ratio in order to ensure that the one first channel is properly received.

10. Regarding claim 2, Richardson in view of Marshall discloses that the broadcast link transfers link maintenance information over the one channel from the central node to each of the remote nodes (Richardson: col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12).

11. Regarding claim 3, Richardson in view of Marshall discloses that the link maintenance information is data used to maintain and manage the broadcast link and the communications link (Richardson: col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12).

12. Regarding claim 5, Richardson in view of Marshall discloses that the communications link comprises time division multiple access link using multi-phase shift key waveform (Richardson: col. 1, line 66-col. 2, line 4).

13. Regarding claim 8, Richardson in view of Marshall discloses that the one channel is adapted to provide slot timing, communications link synchronization and slot management

Art Unit: 2665

functions, the slot management functions being independent of the other channels (Richardson: col. 1, lines 49-62).

14. Regarding claim 9, Richardson in view of Marshall discloses that the one channel is adapted to provide all management functions for the communications link and the other channel is adapted to meet remote node bandwidth needs on demand (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

15. Regarding claim 11, Richardson in view of Marshall discloses that the other channel is adapted to adjust wideband channel performance for transfer of user data on a slot by slot basis (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

16. Regarding claim 13, Richardson in view of Marshall discloses that the first channel is an embedded, high signal-to-noise ratio, tracking channel (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68 and Marshall: col. 1, lines 48-61 and col. 5, lines 9-17).

17. Regarding claim 14, Richardson in view of Marshall discloses that the second channel is adapted to provide a dedicated conduit for transmitting user data from the remote node to the central node (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

18. Regarding claim 15, Richardson in view of Marshall discloses that the second channel is a channel adapted to be rate adjusted for an individual remote node to accommodate a required data bandwidth for the remote node (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68). Richardson in view of Marshall does not expressly disclose that the second channel is a wideband channel; however, Examiner takes official notice that it is well known in the art to use a wideband channel since this offers greater bandwidth compared to a narrowband channel.

Art Unit: 2665

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a wideband channel in order to have a greater amount of bandwidth.

19. Regarding claim 16, Richardson in view of Marshall discloses that the time division multiple access link can adjust a performance of the wideband channel on a slot-by-slot basis (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

20. Regarding claim 17, Richardson in view of Marshall discloses each limitation of claim 17, as outlined in the rejection of claims 1 and 12, except requesting a new remote node transmit power control and a new transmit data bandwidth from the central node by sending a request from the remote node the central node over the time division multiple access communications link, and implementing the change one remote node slot time subsequent to the request.

However, Richardson in view of Marshall further discloses that a mobile unit is assigned a time slot by the base station based upon the mobile unit's need (Richardson: col. 3 lines 58-68 and col. 5, lines 49-54). Richardson in view of Marshall also discloses that the slots are reallocated when required (Richardson: col. 1, line 39-col. 2, line 9 and col. 3 lines 58-68). Thus, Richardson in view of Marshall suggests requesting a new remote node transmit power control and a new transmit data bandwidth from the central node by sending a request from the remote node the central node over the time division multiple access communications link (Richardson: col. 3 lines 58-68 and col. 5, lines 49-54), and implementing the change one remote node slot time subsequent to the request (Richardson: col. 1, line 39-col. 2, line 9 and col. 3 lines 58-68).

21. Regarding claim 19, Richardson in view of Marshall suggests that the step implementing the change further comprises the step of dynamically configuring the wideband channel to

Art Unit: 2665

accommodate the new transmit data bandwidth on a slot by slot basis (Richardson: col. 3 lines 58-68 and col. 5, lines 49-54).

22. Regarding claim 20, Richardson in view of Marshall suggests the step of dynamically assigning one or more slots to a new remote node entering the network (Richardson: col. 1, line 39-col. 2, line 9; col. 3 lines 58-68; and col. 5, lines 49-54).

23. Regarding claim 21, Richardson in view of Marshall discloses the high signal to noise ratio channel used to maintain TDMA slots timing, link synchronization and slot management (Richardson: col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12), wherein the slot management is independent of a data transport channel (Richardson: col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12), where the data transport channel is a separate user channel used as a dedicated conduit for transport of user data that can be dynamically adapted to provide different power and rate control at each slot to provide optimal performance based on user needs and a link environment (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

24. Regarding claim 22, Richardson in view of Marshall discloses including only two separate channels in each slot, one channel being the high signal to noise ratio channel and the other being the wideband channel (Richardson: col. 3, lines 4-12).

25. Regarding claim 23, Richardson in view of Marshall discloses maintaining TDMA slot timing, link synchronization and slot management on the high signal-to-noise ratio channel (Richardson: col. 1, lines 49-62; col. 2, lines 51-55; and col. 3, lines 4-12) and transporting data only on the wideband channel (Richardson: col. 1, line 39-col. 2, line 8 and col. 3, lines 58-68).

Art Unit: 2665

Conclusion

26. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

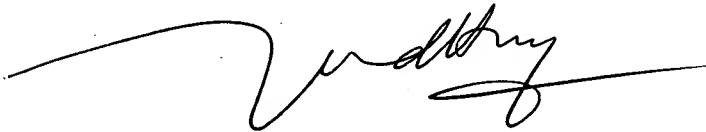
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2665

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel J. Ryman
Examiner
Art Unit 2665



HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600